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INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1937 No. 7

DISCOVERIES AND CURRENT EVENTS *

French North Africa: Locust Movements during the Year 1936 †

No swarms of desert locusts (*Schistocerca gregaria*, Forsk.) were reported during the year 1936 throughout the territory of North Africa (Algeria, Tunis, and Morocco), and an invasion during 1937 does not appear probable.

The information regarding Moroccan locusts (*Dociostaurus maroccanus*, Thnb.) obtained in Algeria in 1935 during the survey of the outbreak areas, permitted an advance organization in control operations during the winter of 1935-1936 in the regions particularily isolated and deprived of most means of communication.

In this way it was possible to commence control operations at the hatching period, the following districts being dealt with:—

Oran Department. Titen Yaya and Sefioun douars of the mixed commune of Telagh; the douars Hounet, Aioun el Beranis, and Tircine of the mixed commune of Saida; the Tagremaret district of the mixed commune of Frenda.

Algiers Department. Ouled Mareuf, Boughzoul, Oum el Djellil, and Aziz douars of the mixed commune of Boghari; the commune of Boghari; the Medjedel douar of the mixed commune of Bou-Saâda; the douars Zemzache (Ain Feka and Ain Tarech district) and Guelt es Stel of the mixed commune of Ain Boucif; the Amres douar of the mixed commune of Sidi Aissa.

Constantine Department. Berhoum, Magra, Djezzar, Gosbate, N'Gaous, Sefiane and Seggana douars of the mixed commune of Barika; El Kantara and Djebel Groun douars of the mixed commune of Ain Touta; the douars Mehenna, Markounda, Merouana, Ouled Mohamed ben Faroudj, Cheddi, Ouled Fatma, and Ras el Aioun of the mixed commune of Belezma; the douars Ouled Zaoui, Ouled Sellem, Ouled Achour, and Ouled Belaguel of the mixed commune of Ain M'Lila.

Two new breeding areas were discovered towards the end of April in the southern territories, at Hasbaia and Oued Sfissifa in the 'annexe' of Djelfa. The prospection of these districts was undertaken immediately.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from the Government General of Algeria, 'Direction des Services Economiques', to the International Institute of Agriculture.

Though locust movements were noted in numerous districts, the greater part of these movements were due to phase *solitaria* which become abundant or to phases *congregans* (certain areas of the Constantine Department) or *dissocians* (Oran Department and certain areas of the Algiers Department).

The typical *gregaria* phase was only reported at Ain Feka (mixed commune of Ain Boucif) and at Touifsa (mixed commune of Boghari) in the Algiers Department, and was completely destroyed after a month of control operations consisting solely in the spreading of poisoned bran.

Though this method affords total destruction of *gregaria* phase its efficaciousness in the case of *solitaria* or *transiens* phases is far from complete. A considerable quantity of poisoned bran is necessary to bring about the elimination of the breeding areas, and in spite of this, still leaves some untouched.

At the present moment, however, this means of destruction is the only one that can be applied to irregular locust populations which disperse at the beginning of control operations, and the exclusive use of this method during the last three years on all populations discovered on inspection has arrested the invasion which menaced the Algerian territory.

Argentine Republic: Locust Invasion during the Period 1936-1937 *

Herewith are noted the various aspects of the locust invasion (*Schistocerca paranensis*) which occurred in the Argentine Republic during the period 1936-1937.

This invasion proceding from the North first took place in the period comprised between May and November, 1936.

Just previous to the invasion, it seemed that the locusts would concentrate in the coastal provinces and the interior, but, however, this invasion rapidly extended throughout the whole territory comprised between Buenos Aires and Jujuy, attaining its greatest intensity in the north of the first-mentioned province and those of Entre Ríos, Santa Fé and Córdoba.

On the whole, the extent of this invasion was somewhat less than during the 1935-1936 period; its occurrence was also premature.

On the other hand, oviposition and the apparition of larvae (' mosquita ', ' saltona ') followed at much wider intervals than was the case with former invasions. It is also known that from 29 August to 15 December, 1936, oviposition occurred in various zones of the country; the ' mosquita ' made its appearance from 12 October, 1936, to 14 January, 1937; the ' saltona ' from 4 November, 1936, to 1 February, 1937; adults from 22 December, 1936, up to the present moment.

This irregularity has rendered control more difficult and costly, although successful results have been obtained and little damage was caused.

* Communication from Dr. JUAN F. TOMASELLO, Director of ' Defensa Agrícola ', transmitted by the official correspondent of the Institute, Mr. JUAN B. MARCHIONATTO, ' Ingeniero Agrónomo ', Director of ' Sanidad Vegetal ', Ministry of Agriculture, Buenos Aires, Argentine Republic.

With regard to control measures, as was customary, a rapid and organized mobilization of material and staff which are at the immediate disposal of the ' Dirección de Defensa Agrícola ', was effected; special funds were obtained, amounting to the sum of 10 millions ' pesos ', of which sum, approximately 6 millions were reserved for the purchase of metal barriers and flame-throwers.

25,616,940 kgs. of adults were captured and destroyed.

A considerable quantity of eggs were destroyed, by digging up infested ground chiefly by means of ploughs.

The control of the ' mosquita ' in the provinces in question took on an especial importance. For the first time, flame-throwers were used as the basic method for the destruction of the ' mosquita ', though at the same time continuing to employ saponaceous solutions and the ' D. A. larvicida ' prepared by the firm dependent on the ' Dirección de Sanidad Vegetal '.

In the infested zones, approximately 70,000 flame-throwers were mobilized, employing gas oil and Diesel oil as combustible.

The ' saltona ' was effectively controlled by the use of metal barriers. The State distributed 30,700,016.20 metres and 14,380,514.29 metres were purchased by private individuals.

It is calculated that approximately 200,000,000 kgs. of ' saltona ' were destroyed.

Poisoned baits were also utilized, although in limited amounts, as the farmers are not much accustomed to this control process, which, however, has given excellent results in various experiments carried out by the ' Dirección de Sanidad Vegetal '.

In conclusion, it must be declared, that both as regards the principal crops of the country (flax, wheat, maize), as well as horticultural and fruit products little damage of note occurred.

Mozambique: Locust Movements *

Niassa Province. During the month of December, 1936, no locust movements were reported in the north of the Colony. In January, 1937, this province was invaded by swarms proceeding from the south reaching the Porto Amelia district. Various circumscriptions of this province were invaded by swarms proceeding from the Zambezia province and which spread rapidly from south to north settling at differents points and causing damage.

Zambezia Province. In December, 1936, various movements of *Nomadacris septemfasciata* swarms were reported in different circumscriptions of the Tete district; the locust movement was variable, the entry of a swarm proceeding from North Rhodesia and another from South Rhodesia being reported. In January, 1937, swarms settled in various regions of the circumscription of Barué, hoppers making their appearance in Mandie in the same circumscription.

* Communication from Mr. JÚLIO GARDÉ ALFARO CARDOSO, Chief of the Section of Entomology, Lourenço Marques, trasmitted to the Institute by the ' Repartição Técnica de Agricultura ' of the Colony of Mozambique.

In December, 1936, a swarm passed over the circumscriptions of Massingire and Milange (Quelimane district) and another over Vila Bocage. In January, 1937, no communications were received regarding locust movements.

Sul do Save Province. In December 1936, hopper bands were found in the circumscription of Murrumbene of the Inhambane district.

In December, 1936, in various points of the Lourenço Marques district layings were reported. In January, 1937, oviposition continued in different localities and also hopper bands at Magude, Movene, Catuane, and Umbeluzi.

In summing up, during December of last year, the locust movement did not occur in the North, to a certain extent at Tete, decreasing in Quelimane and becoming more intensive in the South on the borders of Incomati and Umbeluzi. The egg-laying commenced much later than in former years, although many hopper bands were reported in December. In January, the North of the Colony was unexpectedly invaded by large swarms proceeding from the Zambezia Province. These swarms, the same as those in the South of the Colony had initiated the oviposition phase. A delay in the laying period was noted in comparison with preceding years in which this phase was generally attained towards the end of November and December. Hatching was reported towards the end of January thus confirming the delay; in former years, during the month of December many hopper bands were already noted. It should be noted that a very high temperature and heavy rainfall were prevalent. Owing to the rains it was impossible to continue observations on *Locusta migratoria migratorioides* found in the proximity of Xinavane.

Southern Rhodesia: Locust Invasion, 1932-1937 *

Monthly Report No. 52. March, 1937.

There have been no reports of locusts in any stage in the Colony during the month of March, 1937.

Monthly Report No. 53. April, 1937.

During the month flying swarms of the new generation of the Red Locust (*Nomadacris septemfasciata*, Serv.) have appeared in the north eastern districts of the Colony including Lomagundi, Darwin, Mazoe, Mrawa, Mtoko and Inyanga.

These swarms have apparently matured in the low veld of the Zambezi Valley and the Mozambique Co's Territory.

While the swarms appear to be gradually penetrating further into the Colony they do not appear to be making sustained flights in any definite direction.

Considerable damage to native crops is reported in the Mrewa district.

* Communication from the official correspondent of the Institute, Mr. RUPERT W. JACK, F. E. S., Chief Entomologist, Agricultural Laboratory, Department of Agriculture, Salisbury, Southern Rhodesia.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

French West Africa (Guinea). — By Decree No. 2801 S. E. of the Governor-General, dated 25 November, 1936, taken during the session of the Permanent Committee of the Government Council, the Decree No. 2158 A. E./G., of 29 September, 1936, of the Lieutenant-Governor of French Guinea, rendering compulsory the declaration of the rosette disease of groundnuts, is approved subject to subsequent introduction in the Council of Administration of the French Guinea Colony. (*Journal officiel de la Guinée française*, Conakry, 1er janvier 1937, 37e année, nº 866, p. 6).

Germany. — A new Law regarding the protection of agricultural plants was promulgated on 5 March, 1937.

The first part of the Law contains general prescriptions. The protection of agricultural plants is to be controlled by the Minister of Agriculture. The said Minister is authorized to take all the necessary dispositions with a view to controlling plant diseases and pests in the interior of the country and also to prevent their introduction from abroad.

The Law does not regard damages caused by inundations, polluted waters, and gaseous emanations. Neither does this Law concern dispositions of a legal or administrative order relative to the control of grape phylloxera.

The second part deals entirely with the organization of plant protection methods.

The ' Biologische Reichsanstalt für Land- und Forstwirtschaft ' will carry out studies on plant diseases and pests, work out methods of control and test their efficaciousness, determine the best methods of control and advise organizations charged with the practical application of plant protection.

This activity, which is described in greater detail in the succeeding articles of the Law is carried out by the district centres (' Pflanzenschutzdienst ') comprising the Plant Protection Service and dependent on the Corporation of Agriculture (' Reichsnährstand ').

A Plant Protection Service (' Pflanzenschaudienst ') will be established in due course by the order of the Minister of Agriculture. This Service will control the import, export and transport of plants as well as nurseries, horticultural, wine-growing and plant selection establishments. This Service will also have the authority to grant phytosanitary certificates.

The third part of the Law refers to the rights and duties of those concerned. The proprietors and usufructuaries of lands are obliged to carry out the measures imposed by virtue of this Law and to allow for any disadvantage which might thus derive. If, in spite of a special request on the part of the Plant Protection Service, the said persons do not comply with same, the necessary operations will be executed at their expense by the Plant Protection Service.

The expenses entailed by a public control operation will be distributed among the interested parties who will have benefited by this action.

No indemnity whatsoever is allowed for damages caused to private persons by the application of this Law. However, the Minister of Agriculture may accord a compensation in especially serious cases.

The taxes to be collected by the State in virtue of the present Law will be newly regulated by common agreement between the Ministers of Agriculture and Finance.

Finally the fourth part concerns the penalties to be inflicted on infractors of the Law. Those persons who deliberately infringe the dispositions of the Law will incur fines or a period of imprisonment up to two years; contraventions due to negligence will be punished by a fine up to 150 RM. or a corresponding period of detention.

Those persons who deliberately import from abroad plant pests or disease carriers or those persons who deliberately diffuse them in the interior of the country will be liable to a penalty of imprisonment of not less than three months. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1937, Bd. IX, Nr. 3, S. 63-69).

*** By Decree of 16 April, 1937, the importation of seeds, plants, and parts of alders, birches, and beeches is prohibited.

However, the seeds of these trees may be imported if not intended for reproduction, and on the condition that their utilization shall be controlled by the customs' authorities.

The import of the seeds, plants and parts of plants of oaks is also prohibited, exception being made for the acorns pertaining to the indigenous species (*Quercus pedunculata* and *Q. sessiliflora*), intended for some use other than that of reproduction and controlled by the customs' authorities.

The importation of seeds, plants and parts of plants of oaks pertaining to species other than those already mentioned, is allowed on the condition that the consignments are accompanied by a certificate issued by an official of the Plant Protection Service of the country of origin, testifying that the plants contained in the consignment do not belong to the *Q. pedunculata* or *Q. sessiliflora* species. (*Ibid.*, 1. Mai 1937, Nr. 4, S. 86).

Germany (Saar). — The Police Ordinance, dated 6 April, 1937, relative to the control of noxious plants and weeds stipulates that barberry plants [*Berberis*] must not be allowed within close proximity of the fields. Every barberry plant found within at least 500 metres of any cultivated field must be uprooted and destroyed as also the roots.

The dodder (*Cuscuta*), broom rapes (*Orobanche minor* and *O. lutea*), the 'Fruhlingskreuzkraut' (*Senecio vernalis*) and thistles [*Cirsium*] must be destroyed before attaining the flowering stage. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Mai 1937, Bd. IX, Nr. 4, S. 86-87).

England. — By the Fruit Tree Pests Lincolnshire (Holland) Order of 1937, dated 25 February, 1937, if it appears to the Local Authority from a complaint made to it by a grower of fruit trees that there is reason to suspect

that any fruit trees growing on any premises within the district are so affected with any of the pests specified in the Schedule to this Order that any such pest is likely to spread to fruit trees growing on his premises, it shall thereupon cause the appointed Officer to examine as soon as may be practicable, the fruit trees suspected of being so affected.

The pests specified in the Schedule are:—

American Gooseberry Mildew [*Sphaerotheca mors-uvae*].
Apple and Pear Scab [*Venturia inaequalis* and *V. pirina*].
Brown Rots [*Sclerotinia*].
Fruit Tree Cankers [*Nectria*].
Apple Sawfly [*Hoplocampa testudinea*].
Apple Sucker [*Psylla mali*].
Black Currant Mite, or 'Big Bud' [*Eriophyes ribis*].
Capsid Bugs on tree or bush fruits [*Plesiocoris rugicollis*].
Codling Moth [*Cydia pomonella*].
Fruit Tree Aphides [*Aphididae*].
Fruit Tree Red Spiders [*Trombididae*].
Gooseberry Sawflies [*Nematus*].
Plum Fruit Sawfly [*H. flava*].
Winter Moths [*Cheimatobia brumata*].

After the examination of the fruit trees the appointed Officer shall make a report thereon to the Local Autorithy, and the Local Authority, if satisfied that the fruit trees or any of them are so affected as aforesaid, may serve upon the occupier of the premise a notice requiring him within such time as may be prescribed in the notice, to treat the fruit trees in such manner as may be prescribed in the nocice. Such notice may in addition to any other treatment require the cutting out and burning of any branch that is dead or is affected with any of the pests specified in the Schedule to this Order, and the picking and burning of any fruit so affected. (*Statutory Rules and Orders*, 1937, No. 139, (D. I. P. 596), London, 1937, 4 pp.).

Argentine Republic. — Having been definitely incorporated in Appendix *H* of the Law for estimated expenditure the sum of 100,000 'pesos' for the establishment and working of the 'Instituto Acridiológico' which shall in future carry out all operations previously effected by the 'Comisión Central de Investigación sobre la Langosta' [*Schistocerca paranensis*], Decree No. 99.321 of 4 February, 1937 abolishes the functions of the aforesaid Central Commission.

All the fittings, furniture, apparatus, instruments, archives, etc., pertaining to the aforesaid Central Commission will be transferred, on inventory, to the 'Dirección de Sanidad Vegetal' by which the 'Instituto Acridiológico' shall be controlled. (*Boletín Oficial de la República Argentina*, Buenos Aires, 12 de abril de 1937, año XLV, núm. 12.326, págs. 4342 y 4343).

Australia (Western Australia). — By Order in Council dated 23 December, 1936, Regulation 25 of the Regulations made under 'The Plant Diseases Act, 1914-1935' by Order in Council dated 7 September, 1921, and published in

the *Government Gazette* on 16 September, 1931, and also the First Schedule to such Regulations are repealed, and a new Regulation is inserted in lieu thereof, as follows:—

25. (1) Where by virtue of any Proclamation made under 'The Plant Disease Act, 1914-1935' the bringing or sending of any fruit specified in such Proclamation from one portion of the State to another portion of the State is permitted subject expressly to the condition that such fruit is permitted to be so brought or sent only in accordance with the relative Regulations made under the said Act, any person who desires to bring or send fruit from one portion of the State to another portion of the State in accordance with the permission in that behalf granted by such Proclamation aforesaid, shall make application to an inspector for such fruit to be so brought or sent.

(2) An applicant for permission under this Regulation shall if so required by the inspector, furnish the following particulars: —

(*a*) The place where such fruit has been packed for carriage;

(*b*) The place from which and the place to which the fruit is intended to be carried;

(*c*) The kind and quantity of the fruit proposed to be carried;

(*d*) Whether the cases or coverings in which the fruit is packed for carriage are new or second-hand;

(*e*) The place where such fruit prior to carriage as proposed may be inspected by the inspector;

(*f*) The method of transportation and the proposed route of transportation.

(3) Upon receipt of such application and of such further particulars as the inspector may require, the inspector shall, before granting approval: —

(*a*) Examine the said fruit and the cases or coverings in which the fruit is packed for carriage;

(*b*) Satisfy himself that the proposed carriage of the said fruit is not absolutely prohibited by any Proclamation for the time being in force under ' The Plant Diseases Act, 1914-1935 ';

(*c*) If the cases or coverings in which the fruit is packed for carriage are second-hand cases or coverings, satisfy himself that the use of or carriage in such cases or coverings of such fruit as proposed is not prohibited by any Proclamation made under 'The Plant Diseases Act, 1914-1935' or by any Regulations made under 'The Fruit Cases Act, 1919-1933', for the time being in force;

(*d*) If second-hand fruit cases are being used for the carriage of the fruit as proposed, and the use of such cases is not prohibited by any Proclamation made under ' The Plant Diseases Act, 1914-1935 ', or by any Regulation made under ' The Fruit Cases Act, 1919-1933 ', provided they are first treated and marked as required by the last mentioned Regulations, satisfy himself that the cases have been so treated and marked;

(*e*) Where apples are the fruit proposed to be carried, satisfy himself that such apples have been for a period of six weeks placed into a cold store at a temperature of not more than 32 degrees.

(4) If after due inquiry the inspector is satisfied that the fruit proposed to be carried can properly and lawfully be carried from and to the places stat-

ed by the applicant, the inspector shall grant to the applicant approval for the carriage of such fruit as proposed. (*Government Gazette of Western Australia*, Perth, December 31, 1936, No. 67, pp. 2108-2109).

*** By Order in Council (Agric. File 2861/ 24) the Regulation made under 'The Plant Diseases Act, 1914-1935' and published in the *Government Gazette* on 22 May, 1936 [see this *Bulletin*, 1936, No. 10, pp. 224-225], and therein appearing as Regulation 48 B is amended by substituting for the said number '48 B' the number '48 C'. (*Ibid.*, March 9, 1937, No. 12, p. 395).

Belgium. — A Ministerial Decree of 14 May, 1937 establishes the charges to be made on behalf of the State in the following cases:— (*a*) inspection of consignments of plants intended for abroad; (*b*) inspection of consignments of plants intended for import and not accompanied by prescribed official certificates; (*c*) inspection of consignments of potatoes and flax seed intended for abroad; (*d*) inspection of consignments of gooseberries, cherries, etc. intended for abroad; (*e*) inspection of consignments of potatoes, aubergines, tomatoes, cherries, peaches, apricots, etc., intended for import and not accompanied by a prescribed official certificate; (*f*) consignments requiring to be accompanied by a certificate of origin and issued by the Phytopathological Service but not necessitating inspection; (*g*) inspection of consignments not coming within any of the categories from (*a*) to (*e*). (*Moniteur Belge*, Bruxelles, 5 juin 1937, 107e année, nº 156, p. 3600-3601).

Colombia. — As the presence of 'gusano rosado del algodonero' (*Sacadodes pyralis*) has been ascertained in many regions of the country, and that in order to control this pest, it is necessary to know the periods during which sowing is forbidden, the Chiefs of the Departments have been charged by Decree No. 24 of 8 January, 1937, to report, by means of Decrees, that period of the year during which the sowing of cotton is absolutely prohibited in the respective Departments. (*Diario Oficial*, Bogotá, 3 de marzo de 1937, año LXXIII, núm. 23423, págs. 462 y 463).

Gold Coast. — The Importation of Plants Regulation Ordinance No. 18 of 28 March, 1936, authorizes the Governor to regulate plant imports.

The Governor will have the authority to:—

(*a*) Prohibit or limit the importation of plants, parts of plants, earth, manure, containers, packing material, etc.;

(*b*) Commission any authority with the elaboration of the prescription regarding these imports;

(*c*) Nominate places of entry through which imports must be made;

(*d*) Make such provisions as will ensure inspection of all imports;

(*e*) Take the necessary provisions for the destruction or disinfection of consignments recognized as being affected by plant diseases or pests;

(*f*) Determine the taxes to be imposed;

(*g*) Finally take every possible measure in order to ensure the effective operation of this Ordinance.

These dispositions may be applied to consignments from any source or else to those consignments coming from certain countries only. The names of these countries will be published in the Official Journal. (*Deutsches Handels-Archiv*, Berlin, 1. April 1937, 91. Jahrg., S. 1072).

Egypt * — Under the title ' List of officials authorized to sign the phytopathological certificates ', the Plant Protection Section of the Ministry of Agriculture has published a list of the officials duly authorized to inspect the consignments of plant products intended for export and also to issue the relative health certificates. Besides the name of the official, indication of his official functions and the fac-simile of his signature are given in this list. The list concludes with the fac-simile of the seal of the five Plant Quarantine Offices at present in operation in the Kingdom.

Any eventual change in this list will be communicated in due course.

France. — By Ministerial Decree of 1 March, 1937 relative to the transit of potatoes originating in and proceeding from Belgium, Great Britain and the Netherlands, article 3 of the Ministerial Decree of 5 December, 1936 [see this *Bulletin*, 1937, No. 2, p. 32], is modified as follows:—

. . . . . .

' (3) Transit without transhipment at the place of entry on the territorial frontier and, in the case of entry on the maritime frontier (only through the authorized custom-houses: Dunkerque, Havre, Bordeaux, Marseille, Strasburg Port-du-Rhin) '.

The rest remaining unchanged. (*Journal officiel de la République française*, Paris, 3 mars 1937, LXIX^e^ année, n^o^ 52, p. 2645).

*** A Ministerial Decree of 12 April, 1937 establishes the following:—

Art. 1. — The import and transit are authorized of the plant products enumerated below, originating and coming from the United Kingdom.

(1) Throughout the year:—

(*a*) Onions (without the external sheath), cucumbers, asparagus.

(*b*) Flower bulbs, bulb plants, hyacinths, tulips, rhizome plants and plants of a similar type;

(*c*) *Acacia* (except hardy species), *Acalypha*, *Aglaonema*, *Allamanda*, *Alocasia*, *Anthurium*, *Aphelandra*, Araceae (except hardy species), *Aralia* (except hardy species), *Araucaria excelsa*, *Ardisia*, *Aristolochia* (except hardy species), *Asparagus* (except hardy species), *Aspidistra*, laurels in boxes or pots, *Begonia* (except hardy plants), *Beloperone*, *Bertolonia*, *Boronia*, *Bougainvillea*, *Bromelia*, cactus and succulent plants, *Camellia japonica*, *Cissus*, *Citrus*, *Clerodendron*, *Cli-*

* Communication from the Legation of His Majesty the King of Egypt, Rome, to the International Institute of Agriculture.

via, Coccoloba, Columnea, Croton, Curmeria, Dichorisandra, Dieffenbachia, Dracaena, Erica (except hardy plants), *Eugenia, Euphorbia* (except hardy plants), *Eurya,* ferns (except hardy species), *Ficus* (except *F. carica*), *Fittonia, Fourcroya* (= *Furcraea*), *Franciscea* (= *Brunfelsia*), *Gardenia, Gerbera, Haemanthus, Hedychium, Hibiscus* (except hardy species), *Hoya, Ixora, Jasminum* ((except hardy species) *Kennedya, Leea, Leptospermum, Maranta, Medinilla, Metrosideros, Monstera deliciosa* (= *Philodendron pertusum*), *Musa, Nepenthes, Nephthytis, Nerium, Ophiopogon* (except hardy species), orchids, palms, Pandanaceae, *Pavonia, Peperomia, Phormium* (except hardy species), *Phyllotaenium, Plumbago* (except hardy species), *Pothos, Rhopala* (= *Roupala*), *Sansevieria, Schismatoglottis, Sonerila, Spathiphyllum, Stephanotis, Strelitzia, Syngonium, Thunbergia, Vanilla,* water lilies, *Xanthosoma.*

(2) During the period 1 October – 7 April inclusive:—

Azalea indica, Euonymus japonicus, Genista (*Cytisus canariensis* and *C. frangans*), *Hydrangea hortensis* (= *H. hortensia*), and any living plant besides those mentioned in paragraphs (1) (*b*), (*c*), and (2), provided that they are free from adherent earth.

Art. 2. — The import of the living plants enumerated or viséd in paragraph (2) of Article 1 is authorized within the period 8 April—30 September inclusive, if accompanied by a double copy of a certificate of origin and phytosanitary inspection issued by the Phytopathological Service of the United Kingdom.

Art. 3. — The import of living plants with attached soil other than those enumerated in Article 1, (1) (*b*), (*c*), and (2), is authorized, if accompanied with a certificate as according to Article 2.

Art. 4. — The import of fresh vegetables, other than those listed in Article 1, paragraph (*a*) is authorized:—

(*a*) From 15 October to 20 April inclusive;

(*b*) From 21 April to 14 October inclusive, if provided with a certificate as according to Article 2.

Art. 5. — The transit of the products mentioned in Articles 2, 3 and 4, is authorized throughout the whole year. (*Ibid.*, 18 avril 1937, nº 91, p. 4407-4408).

*** A Notification of the Ministry of Agriculture informs exporters of peaches, nectarines and apricots in Belgium that consignments of these fruits are exempt from inspection by the Belgian Phytopathological Service [see this *Bulletin*, 1933, No. 9, p. 204, and 1936, No. 12, p. 268], when accopanied by a certificate issued by the French Phytopathological Service testifying that these products are free from ' worm ' [this denomination signifies the larvae of all fruit flies pertaining to the *Trypetidae* family, as well as the larvae of *Anarsia lineatella, Cydia molesta* and *Conotrachelus nenuphar*]. (*Ibid.*, 6 juin 1937, nº 130, p. 6328).

Italy. — By Law No. 576 of 3 April, 1937, has been transformed into Law the Royal Decree-Law No. 115 of 18 January, 1937 [see this *Bulletin*, 1937, No. 4, pp. 70-71] relative to the subsidies to be accorded to proprietors of citrus orchards as a contribution by the State towards the expenses incurred in carrying out con-

trol operations against ' mal secco ' [*Deuterophoma tracheiphila*] in Sicily. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 13 maggio 1937, anno 78°, n. 110, p. 1750).

*** The Royal Decree-Law No. 642 of 15 April, 1937 authorizes the Ministry of Agriculture and Forests to contribute to the expenses incurred through the control of scale insects of citrus trees during the 1936-1937 season.

A credit of 2,100,000 lires is entered for this purpose, in the statement of estimated expenditure by the said Ministry for the financial year 1936-1937. (*Ibid.*, 19 maggio 1937, n. 115, p. 1840).

*** A Ministerial Decree of 26 April, 1937, authorizes the Game Commission in the province of Rome to kill thirty deer in the Monte Artemisio zone in order to check the considerable damage caused to crops by this game. (*Ibid.*, 1° maggio 1937, n. 101, p. 1619).

*** By Ministerial Decree of 21 April, 1937, the control of the cock-chafers (*Melolontha melolontha*) in the Bergamo province by collection of beetles to be effected through the operation and expense of the persons interested has been made compulsory. (*Bollettino ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 16 maggio 1937, anno IX, n. 10, p. 1015).

Luxemburg (Grand Duchy of). — A Decree of 31 March, 1937, establishes the organization of a service of local observers who are charged to report immediately to the Wine-growing Station the appearance of any disease or pest in the vineyards. (*Mémorial du Grand-Duché de Luxembourg*, Luxembourg, 3 avril 1937, n° 26, p. 212-213).

Mauritius (Colony of). — By Proclamation No. 24 of 5 September, 1936, the Director of Agriculture or other person deputed by him in writing may at any time inspect sugar canes or other crops in the Island and issue, if necessary, an order in writing containing instructions as to the cutting, reaping and disinfection or other treatment of sugar canes or crops and as to the disinfection or treatment of the soil in which they are growing.

The Director of Agriculture may at any time prohibit in any areas the digging of larvae of *Phytalus smithi* from the soil or the collection of adults of this beetle, if he has reasons to believe that by so destroying the larvae or adults their parasites are destroyed.

Provided it shall be lawful for the Director of Agriculture, after having prohibited the collection of adult beetles in the above-mentioned areas, to allow the collection at any time if he finds it desirable.

The Director of Agriculture may at any time order the planting, raising or cultivating of such trees, shrubs or plants as may be deemed expedient for the purpose of attracting or trapping *Phyt. smithi*, or its natural enemies and may order the spraying or other treatment of trees, shrubs or plants for the purpose of destroying the pest.

These trees, plants or shrubs shall be protected by the owner or his representative or by the occupier of the land on which they are planted or cultivated for such time as the Director of Agriculture may consider necessary. (*Legal Supplement to the Official Gazette of the Mauritius Government*, No. 57 of September 5th, 1936, pp. 41-42).

*** By Proclamation No. 25 of 5 September, 1936, the following insects are declared to be beneficial insects:—

(*a*) *Tiphia parallela*, a Scoliid wasp introduced from Barbados;

(*b*) *Campsomeris coelebs, C. pilosella, C. erythrogaster* and other *Campsomeris* species, Scoliid wasps introduced from Madagascar;

(*c*) *C. javana, C. annulata, C. phalerata* and other *Campsomeris* species introduced from the Far East (Java);

(*d*) *C. rodriguezensis* introduced from Rodriguez;

(*e*) *Prosena siberita*, a Dexiid fly introduced from the Far East (Java);

(*f*) *Pyrophorus luminosus*, an Elaterid predator introduced from Porto Rico;

(*g*) Tachinid flies from Madagascar, Java, etc., for parasitising the larvae of *Phyt. smithi*;

(*h*) Dexiid flies introduced from Madagascar and other countries for parasitising the adults of *Phyt. smithi*;

(*i*) *Scolia oryctophaga*, a Scoliid wasp introduced from Madagascar for parasitising *Oryctes tarandus*;

(*j*) *C. fallax*, an indigenous Scoliid wasp parasitising *Rhizotrogus* species.

The capture and the possession in cages or in any other container of beneficial insects in any place, is prohibited.

Provided that the Director of Agriculture or any person authorized by him may enter upon any land, on notice being given to the owner or occupier thereof, or to his representative, and there capture and remove the above mentioned beneficial insects in such number as shall be required by him either for scientific purposes or for distribution elsewhere. (*Ibid.*, pp. 43-44).

New Zealand. — On 18 March, 1937 the Minister of Agriculture has published a Resolution passed by the Egmont County Council on 9 March, 1937, establishing that in view of the alarming increase in the spread of noxious weeds, the said Council assume responsability on 1st April, 1937 for the administration of the Noxious Weeds Act, 1928, and amendments. (*The New Zealand Gazette*, Wellington, March 24, 1937, Numb. 18, p. 655).

*** By Special Order made by the Wairewa County Council on 9 March, 1937, and published by the Minister of Agriculture on 23 March, 1937, hemlock (*Conium maculatum*) has been declared to be a noxious weed within the County of Wairewa. (*Ibid.*, April 1, 1937, Numb. 22, p. 948).

RECENT BIBLIOGRAPHY

ADAMSON, A. M. Preliminary report on termites and termite damage in Trinidad, West Indies. *Tropical Agriculture*, Trinidad, B. W. I., 1937, Vol. XIV, No. 5, pp. 141-149, figs. 1-11. References, p. 149.
[A list of termites known in Trinidad is appended].

AINSWORTH, G. C. The plant diseases of Great Britain. A bibliography. With a foreword, by E. J. Butler. London, Chapman & Hall, Ltd., 1937, XII + 203 pp.
[This bibliography is an attempt to collect together in a convenient form the key references for the principal plant diseases of Great Britain so that descriptions of the symptoms, the causal agents and methods of control may be quickly found and additional information discovered. Each reference has been briefly annotated to indicate the type and scope of the paper.
The host plants are arranged alphabetically within the different groups (cereals, fodder crops, root crops, potato, pulse, vegetables, pome fruit, stone fruit, bush fruit and soft fruit, miscellaneous fruit, ornamental plants, trees, miscellaneous plants), according to their generic names.
The diseases are arranged under each host plant according to the causal agents. A few non-parasitic diseases have also been included].

ALVARADO, Juan Antonio. Muerte prematura de cafetos. *Revista Agrícola*, Guatemala, 1937, vol. XIV, núm. 6, págs. 314 a 324, 1 fig.
[The dying-off of a coffee tree may be due to two causes: of nonparasitic origin and parasitic or infectious origin].

ANDERSON, H. W., KADOW, K. J., and HOPPERSTEAD, S. L. The evaluation of some cuprous oxides recommended as seed-treatment products fo the control of damping off. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 575-587, figs. 1-4.
[*Pythium* and *Rhizoctonia* spp.].

ANTONGIOVANNI, Enrico. Un nuovo parassita del *Chrysomphalus dictyospermi* Morg. *Bollettino della Società Entomologica Italiana*, Genova, 1937, vol. LXIX, n. 3, pp. 44-46, figg. 1-2.
[*Habrolepis pascuorum*?].

ARK, P. A. Effect of certain enzymes and amino-acids on crown gall tissues. *Science*, Lancaster, Pa., 1937, New Series, Vol. 85, No. 2206, p. 364.
[*Phytomonas tumefaciens*].

ARNDT, C. H., and CHRISTIE, J. R. The comparative rôle of certain nematodes and fungi in the etiology of damping off, or soreshin, of cotton. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 569-572.
[*Aphelenchoides parietinus, Aphelenchus avenae, Cephalobus elongatus, Acrobeles butschlii, Fusarium moniliforme, F. vasinfectum, Glomerella gossypii*].

AWIBOWO, R. De Randoe-toopboorder (*Alcides leeuweni* Hell.). Voorloopige samenvatting. *De Bergcultures*, Batavia-Stad 1937, 11e jaarg., no. 16, blz. 547-548, 3 fig.

BALACHOWSKY, A. Recherches sur l'utilisation du froid dans la lutte contre le ver des cerises (*Rhagoletis cerasi* L.). *Annales des Epiphyties et de Phytogénétique*, Paris, 1937, nouv. sér., tome III, fasc. 1, p. 137-140.

BARNES, H. F. Methods of investigating the bionomics of the common crane-fly, *Tipula paludosa* Meigen, together with some results. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 356-368, pl. XXVII, References, p. 368.

BARTOLI, O. I danni del Cleonus nelle zone di approvvigionamento dello zuccherificio di Cecina. *Pagine Agricole*, Livorno, 1937, anno XXI, n. 5, pp. 4-5. [*Cleonus mendicus*].

BEAUVERIE, J. Etudes de cytologie expérimentale. Les chromoplastes des renoncules et leurs altérations. (Introduction à l'étude de l'immunité chez les végétaux). Première partie: Etat normal. *Annales des Sciences Naturelles, Botanique*, Paris, 1937, 10e série, tome XIX, p. 7-24, fig. 1-13.

BENNETT, F. T. Dollarspot disease of turf and its causal organism, *Sclerotinia homoeocarpa* n. sp. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 236-257, figs. 1-4, pls. XIII-XV. References, p. 256.
[A Latin diagnosis of the new species is given].

BERGER, G. Une grave maladie de la fève au Maroc (*Botrytis fabae* Sard.). *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 101-111, fig. 1-3.

BEVER, Wayne M. Influence of stripe rust on growth, water economy, and yield of wheat and barley. *Journal of Agricultural Research*, Washington, D. C., 1937, Vol. 54, No. 5, pp. 375-385, figs. 1-3. Literature cited, pp. 384-385.
[*Puccinia glumarum*].

BLANCHARD, Everard E. El empleo de los cebos trampas en la lucha contra la oruga de las pomáceas (*Cydia pomonella* L.). *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 225 a 227, 5 figs.

BONNEMAISON, L. Un Aphide nuisible aux fougères nouveau pour la France, *Idiopterus nephrolepidis* Davis. *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 163-171, fig. 1-8. Bibliographie, p. 171.

BOURGOGNE, J. Description de deux *Psychidae* nouvelles de Cochinchine nuisibles au *Nipa fruticans* [Lép. Hétérocères]. *Bulletin de la Société entomologique de France*, Paris, 1937, tome XLII, n° 4, p. 55-62, 1 pl.
[*Acanthopsyche* (*Cremastopsyche*) *nipae* n. sp. and *A.* (*Metisa*) *griseoalba* n. sp.].

BRANAS, Jean, et BERNON, Georges. Résumé des recherches entreprises en 1936 sur le traitement de la panachure de la vigne. *Annales de l'Ecole nationale d'Agriculture de Montpellier*, Montpellier, 1937, nouv. sér., tome XXIV, fasc. III, p. 249-252. Bibliographie, p. 252.
[This disease is characterized by a yellowing of the leaves which is independent of the presence of calcium carbonate in the soil].

BRANAS, Jean, et BERNON, Georges. Troisième contribution à l'étude du court-noué de la vigne. *Annales de l'Ecole nationale d'Agriculture de Montpellier*, Montpellier, 1937, nouv. sér., tome XXIV, fasc. III, p. 253-257. Bibliographie, p. 257.

BRANDT, Herbert. Untersuchungen über die Änderung des Geschlechtsverhältnisses bei der Nonne (Lymantria monacha L.) und ihre Ursachen. *Zeitschrift für angewandte Entomologie*, Berlin 1937, Bd. XXIV, Heft 1, S. 87-94, Abb. 1-2. Literatur, S. 94.

BREDEMANN, G., und RADELOFF, H. Über Fluor-Rauchschäden. Fluoraufnahme durch die Rinde der Sprosse und ihre Wirkung. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 172-181. Schrifttum, S. 181.

BREMER, H. Über die bisher fälschlich „Zwiebelrotz" gennante Gelbstrefigkeit an Zwiebelsamenträgern. *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 79-105, Abb. 1-5. Schriftenverzeichnis, S. 105.
[It is most probably a virus disease].

BRÉMOND, P. Observations sur *Chortophila brassicae* Bché., et son parasite *Aphaereta minuta* Nees au Maroc. *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 172-174.

BRUNETEAU, J. Recherches sur les ennemis naturels du doryphore en Amérique. *Annales des Epiphyties et de Phytogénétique*, Paris, 1937, nouv. sér., tome III, fasc. 1, p. 113-135, fig. 1-14.
[*Leptinotarsa decemlineata*].

BUHR, Herbert. Parasitenbefall und Pflanzenverwandtschaft. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie*, Leipzig 1937, 68. Bd., 2./3. Heft, S. 142-198, Taf. XXVI-XXVII. Schriftenverzeichnis, S. 196-198.

BURKHOLDER, Walter H. A bacterial leaf spot of geranium. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 554-560, fig. 1.
[*Phytomonas geranii* n. sp. on *Geranium sanguineum*, *G. maculatum*, *G. pratense* and *G. sylvaticum*. A description in English of the new species is given].

BURKHOLDER, Walter H. Serological reactions for the determination of bacterial plant pathogens. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 572-574. Literature cited, p. 574.

BUSNEL, R. G. Contribution à l'étude anatomique et physiologique de la chenille d'*Ephestia kuehniella* Z. (teigne de la farine). *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 137-162, fig. 1, pl. I-IV. Bibliographie générale sur *Ephestia kuehniella* Zeller, p. 161.

CALINISAN, Melanio R., and HERNANDEZ, Crispiniano C. Studies on the control of abacá bunchy-top with reference to varietal resistance. *The Philippine Journal of Agriculture*, Manila, 1937, Vol. 7 (1936), No. 4, pp. 393-407, fig. 1, pls. 1-3. Literature cited, p. 405.
[A virus disease].

CHAMBERLAIN, E. E. Turnip-mosaic. A virus disease of crucifers. *The New Zealand Journal of Agriculture*, Wellington, 1936, Vol. 53, No. 6, pp. 321-330, figs. 1-5. Literature cited, p. 330.

CHESNOKOV, P. G. Resistance of spring wheat to the frit fly (*Oscinella frit* L.). *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 153-178. [Literature cited], pp. 175-178.
[In Russian, with title and summary also in English].

CHIAPPELLI, R. I nemici del riso. *Il Giornale di Risicoltura*, Vercelli, 1937, anno XXVII, n. 4, pp. 50-52, 3 figg.
[*Apus cancriformis*, *Planorbis corneus*, *Gryllotalpa vulgaris*].

COLLINS, J. C. Notes on tobacco root-knot nematode. *The Rhodesia Agricultural Journal*, Salisbury, 1937, Vol. XXXIV, No. 5, pp. 368-374. References, p. 374.
[*Heterodera marioni*].

CORTI, Hércules. Inutilidad del cianuro para luchar contra las hormigas. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, pág. 180.
[Potassium cyanide or sodium cyanide, commonly called cyanide].

DALLAS, W. K. Spray schedule for control of principal orchard diseases and pests. *The New Zealand Journal of Agriculture*, Wellington, 1937, Vol. 54, No. 1, pp. 15-24.

DALMASSO, G. In tema di peronospora e Osservatorî antiperonosporici. *Il Gazzettino Agricolo*, Padova, 1937, anno XI, n. 20, p. [1].
[*Plasmopara viticola*].

DARLING, Henry M. A study of scab resistance in the potato. *Journal of Agricultural Research*, Washington, D. C., 1937, Vol. 54, No. 4, pp. 305-317, figs. 1-7. Literature cited, pp. 316-317.
[*Actinomyces scabies*].

DAWSEY, Lynn H., CRESSMAN, A. W., and HILEY, Julian. The relative quantities of oil deposited upon paraffin-coated plates and upon plant foliage by oil sprays. *Journal of Agricultural Research*, Washington, D. C., 1937, Vol. 54, No. 5, pp. 387-398, figs. 1-3. Literature cited, p. 398.

DI FONZO, Mario A. Algunas enfermedades del algodonero. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 261 a 266.
[*Bacterium malvacearum*, *Rhizoctonia solani*, *Fusarium* sp., *Glomerella gossypii*, virus, physiological diseases, etc.].

DUFRÉNOY, J., et BOUGET, J. Etudes sur des maladies à virus de la pomme de terre. *Annales des Sciences Naturelles, Botanique*, Paris, 1937, 10e serie, tome XIX, p. 181-202, fig. 1-7. Bibliographie, p. 201-202.

DUNDAS, Bjarne. Inheritance of resistance to powdery mildew in beans. *Hilgardia*, Berkeley, California, 1936, Vol. 10, No. 8, pp. 243-253. Literature cited, p. 253.
[*Erysiphe polygoni*].

ELLER, Karl. Zur Rassen-und Artfrage, untersucht an dem Formenkreis von Papilio machaon L. (Lep. Rhop.). *Zeitschrift für angewandte Entomologie*, Berlin 1937, Bd. XXIV, Heft 1, S. 145-149, Abb. 1-2. Literatur, S. 149.

FEYTAUD, J[ean]. Recherches sur le doryphore. III. – Causes de réduction naturelles (milieu, maladies, ennemis). *Annales des Epiphyties et de Phytogénétique*, Paris, 1937, nouv. sér., tome III, fasc. 1, p. 35-97, fig. 1-4, pl. I-II.
[*Leptinotarsa decemlineata*].

FEYTAUD, J[ean]. Le doryphore et l'Europe. *Revue de Zoologie agricole et appliquée*, Bordeaux, 1937, 36e année, nº 1, p. 1-13. Bibliographie, p. 12-13.
[*Leptinotarsa decemlineata*].

FOËX, et ROSELLA. Un *Sclerotium* parasite, du blé. *Annales des Sciences Naturelles Botanique*, Paris, 1937, 10e série, tome XIX, p. 221-231, fig. 1-10.
[*Sclerotium costantini* n. sp. The Latin diagnosis of this species is given].

FRANCESCONI, Mario. Sul nerume del cavolfiore. *Giornale di Agricoltura della Domenica*, Roma, 1937, anno XLVII, n. 22, p. 185, 1 fig.
[*Alternaria brassicae*].

FRINGS, Hubert W., [and] FRINGS, Mable S. Magnesium sulphate – a new insecticide. *Science*, Lancaster, Pa., 1937, New Series, Vol. 85, No. 2209, p. 428.

FRON, G. La maladie de l'orme. *Revue des Eaux et Forêts*, Paris, 1937, tome LXXV, IX^e sér., 35^e année, n° 3, p. 193-200, fig. 1-4. Bibliographie, p. 200.
[*Ceratostomella ulmi*].

GÄUMANN, Ernst. Zur Kenntnis der Luzula-bewohnenden Puccinien. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 290-308, Abb. 1-2. Zitierte Literatur, S. 308.
[*Puccinia* spp. on *Luzula* spp.].

GÄUMANN, Ernst, und JAAG, Otto. Über eine neue Erkrankung der Tanne (*Abies alba* Mill.) und der Fichte (*Picea excelsa* [Lam.] Link.). *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 1-16, Abb. 1, Taf. 1-6. Zitierte Literatur, S. 10.
[*Pleurotus mitis*].

GERRETSEN, F. C. Manganese deficiency of oats and its relation to soil bacteria. *Annals of Botany*, London, 1937, N. S., Vol. I, No. 2, pp. 207-230, pls. V-VIII. Literature cited, pp. 228-229.
[Grey speck disease of oats is not caused by manganese deficiency alone; the appearance of the typical symptoms depends, in addition, on the presence of certain bacteria which attack the roots of the plants].

GHILLINI, C. A. Infezioni vasali nelle piante coltivate: la trombosi da "Verticillium" nella varietà "Prunus Davidiana". *L'Italia Agricola*, Roma, 1937, anno 74, n. 3, pp. 208-210, figg. 1-2, Bibliografia, p. 210.
[*Verticillium* sp.].

GODFREY, G. H., and HAGAN, H. R. Some measurements of detrimental effects of the root-knot nematode on the pineapple plants. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 515-530, figs. 1-2. Literature cited, p. 530.
[*Heterodera marioni*].

GOIA, G., [e] GERBALDI, C. Rilievi sulla peronospora della barbabietola. *Giornale di Agricoltura della Domenica*, Roma, 1937, anno XLVII, n. 20, p. 171.
[*Peronospora schachtii*].

GOMEZ-MENOR O., Juan. Notas fitopatológicas. *Revista de Agricultura*, Ciudad Trujillo, República Dominicana, 1937, vol. XXVIII, núm. 91, págs. 170 a 172, 3 figs.
[*Uromyces jatrophae* on *Manihot*; *Cerataphis lataniæ* on coconut in the Dominican Republic].

GUALDI, G. I prodotti insetticidi alla nicotina. *Il Tabacco*, Roma, 1937, anno 41°, n. 483, pp. 24-27.

HAUMAN, Lucien. Les champignons séminicoles des forêts tropicales. Résultats botaniques de l'Expédition scientifique belge au Ruvenzori, 1932. — VI. *Bulletin de la Société Royale de Botanique de Belgique*, Bruxelles, 1936-1937, tome LXIX, 2^ème sér., tome XIX, fasc. 1 (1936), p. 96-129, fig. 1-7. Bibliographie, p. 128-129.

HAYWARD, Kenneth J. Normas para la preparación de caldo bordelés para usar sobre citrus. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 257 a 259.

HEUMANN, E., Natriumchlorat als erprobtes Mittel gegen das Landrohr, Calamagrostis epigeios. *Forstarchiv*, Hannover 1937, 13. Jahrg., Heft 6/7, S. 106-110, Abb. 1-6.

HUNDERTMARK, A. Verbreitungsmöglichkeiten der Nonne Lymantria monacha L. duch die Eiraupen. *Zeitschrift für angewandte Entomologie*, Berlin 1937, Bd. XXIV, Heft 1, S. 118-128, Abb. 1-5. Literatur, S. 128.

IBARRA, Florinda E. Malezas más comunes del trigo y del lino. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 405 a 410, 3 figs.
[*Cynodon dactylon, Rumex crispus, Polygonum acuminatum, Agrostemma githago, Centaurea, Anthemis Cotula, Lolium multiforum, L. temulentum, Melilotus indicus, P. aviculare, P. convolvulus, Vaccaria segetalis, Raphanus sativus, Ammi viznaga, Datura ferox, Digitaria sanguinalis, Setaria verticillata, Salsola kali, Brassica campestris, Sorghum halepense, Conium maculatum*].

JACK, Rupert W. Southern Rhodesia. Locust invasion, 1932-37. Monthly Report No. 51, February, 1937. *The Rhodesia Agricultural Journal*, Salisbury, 1937, Vol. XXXIV, No. 4, p. 333.
[The locust species in question is not indicated].

JACK, Rupert W. Southern Rhodesia. Locust invasion, 1932-37. Monthly Report No. 52. March, 1937. *The Rhodesia Agricultural Journal*, Salisbury, 1937, Vol. XXXIV, No. 5, p. 430.
[No reports of locusts during the month].

JAHNEL, Helmut. Wuchsstoffuntersuchungen an abbaukranken Kartoffeln. *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 113-117, Abb. 1. Literatur, S. 117.

JOHNSON, C. G. The biology of *Leptobyrsa rhododendri* Horvath (Hemiptera, Tingitidae), the rhododendron lacebug. II. Feeding habits and the histology at the feeding lesions produced in *Rhododendron* leaves. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 342-355, pls. XXIV-XXVI. References, pp. 353-354.

JOHNSON, James. Factors relating to the control of ordinary tobacco mosaic. *Journal of Agricultural Research*, Washington, D. C., 1937, Vol. 54, No. 4, pp. 239-273, figs. 1-7. Literature cited, pp. 272-273.

KAMERAZ, A. J., and ANIKIEV, A. M. Investigation of degeneration in the potato according to the method of Bechhold and Erbe. *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 201-214.
[In Russian, with title and summary also in English].

KARGAPOLOVA, N. N. The chemical peculiarities of wheats in connection with their resistance to rust *Puccinia triticina* Erikss. *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 179-199. [Literature cited], pp. 196-197.
[In Russian, with title and summary also, in English].

KARGAPOLOVA, N. N. Anatomical peculiarities of potato species and varieties differing in their resistance to *Phytophthora infestans* DB. *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 215-226, figs. 1-12. [Literature cited], p. 225.
[In Russian, with title and summary also in English]

KEITT, G. W., [and] PALMITER, D. H. Heterothallism in Venturia inaequalis. *Science*, Lancaster, Pa., 1937, New Series, Vol. 85, No. 2212, p. 498.

KLAPPENBACH, Ramón A., y REIG, Alfonso A. Lucha contra el sorgo de Alepo. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 417 a 426, 6 figs.
[*Sorghum halepense*].

KÖHLER, E. Versuche über Pfropfung und Akronekrose bei Kartoffeln. Vorläufige Mitteilung. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 158-160, Abb. 1-2.

KÖHLER, E. Ueber ein " Veinbanding-Virus " der Kartoffel. *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 17-29, Abb. 1-7. Schriftenverzeichnis, S. 29.

KÖHLER, E. Fortgeführte Untersuchungen mit verschiedenen Stämmen des X-Virus der Kartoffel (Ringmosaikvirus). *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 31-41, Abb. 1-4. Schriftenverzeichnis, S. 41.

KOLUBAJIV, S. Poznámky k biologii mnišky a jejích hlavních hmyzích parasitů. *Lesnická Práce*, Písek, 1937, roč. XVI, čís. 4, str. 169-199, obr. 1-2. Literatura, str. 193-195.
[In Czech, with titles and summaries also in German and English: — ' Bemerkungen zur Biologie der Nonne und ihrer Hauptparasiten '. — ' Notes on the biology of the nun moth and its main parasite insects '. — *Porthetria* (*Lymantria*) *monacha*].

KOMÁREK, Jul. Kritisches Wort über die Bedeutung den Insektenparasiten der Nonne. Mit einer Bestimmungstabelle von Serh. Kolubajiv. *Zeitschrift für angewandte Entomologie*, Berlin 1937, Bd. XXIV, Heft 1, S. 95-117, Taf. 1-2.
[*Lymantria monacha*].

KOTTHOFF, P., Verticillium coccorum (Petsch) Westerdijk als Parasit auf Puccinia Chrysanthemi Roze. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 127-130, Abb. 1-2.

KOZLOVSKY, Serge. Sur le décalage des générations du *Leptinotarsa decemlineata* en milieu artificiel. *Annales des Epiphyties et de Phytogénétique*, Paris, 1937, nouv. sér., tome III, fasc. 1, p. 99-111, fig. 1-3.

KUHNHOLTZ-LORDAT, G. Glanes phytopathologiques. *Annales de l'Ecole nationale d'Agriculture de Montpellier*, Montpellier, 1937, nouv. sér., tome XXIV, fasc. III, p. 215-236.
[Enumeration of parasitic fungi collected from the different departments of France].

KÜTHE, K. Zur Biologie und Bekämpfung des Apfelwicklers (Carpocapsa pomonella L.). *Zeitschrift für angewandte Entomologie*, Berlin 1937, Bd. XXIV, Heft 1, S. 129-144, Abb. 1-6. Literatur, S. 144.

LEMESLE, Robert. Mycocécidie florale produite par le *Fusarium moniliforme* Sh. var. *anthophilum* (A. Br.) Wr., sur le *Scabiosa Succisa* L. *Annales des Sciences Naturelles, Botanique*, Paris, 1937, 10e série, tome XIX, p. 341-350, fig. 1-5, 1 pl.

LESNE, P. Sur la présence d'une cécidomyie du blé, *Clinodiplosis equestris* Wagner, aux environs de Soissons. *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 98-100, fig. A-B.

[LIGUE NATIONALE DE LUTTE CONTRE LES ENNEMIS DES CULTURES]. Guide pratique pour la défense sanitaire des végétaux. Maladies principales des plantes cultivées, leur description, leurs causes, leurs traitements. 1937. Préface, par Georges Chappaz. Paris, 1937, XII, 294 p., 1 portr. (Publications de la Ligue Nationale de Lutte contre les Ennemis des Cultures. Maison de l'Agriculture, 129, boulevard Saint-Germain, Paris [VIe]). Prix franco 10 fr.

LUX, Rita. Sur le parasitisme du *Bibio hortulanus* L. par un Nématode du genre *Rhabditis*. (Note préliminaire). *Bulletin du Muséum National d'Histoire Naturelle*, Paris, 1936, 2e sér., tome VIII, nº 6, p. 512-513.

MACDONALD, J. A. A study of *Polyporus betulinus* (Bull.) Fries. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 289-310, figs. 1-22, pls. XVIII-XIX. References, pp. 308-310.

MAERCKS, Hans. Ueber die Sicherheit der Voraussage von Schlüpfterminen bei Schadinsekten. *Arbeiten über physiologische und angewandte Entomologie aus Berlin-Dahlem*, Berlin-Dahlem 1937, Bd. 4, Nr. 1, S. 17-30, Fig. 1-3. Schriftenverzeichnis, S. 29-30.

MARCHIONATTO, Juan B. Enfermedades comunes de los rosales y medios para combatirlas. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 127 a 129, 2 láms.
[*Sphaceloma rosarum, Sphaerotheca pannosa, Actinonema rosae, Phragmidium subcorticium, Botrytis cinerea, Coniothyrium fuckelii*].

MARCUS, B. Adolf. " Detal "-Bestäubung gegen den Kiefernspanner (Bupalus piniarius L.). *Zeitschrift für angewandte Entomologie*, Berlin 1937, Bd. XXIV, Heft 1, S. 71-86. Literatur, S. 85-86.

MARESQUELLE, H.-J. Les processus fondamentaux de la cécidogenèse. *Annales des Sciences Naturelles, Botanique*, Paris, 1937, 10e série, tome XIX, p. 379-392.

MARIANI, Mario. Nuove osservazioni su *Eustaintonia phragmitidella* Mar. (Lepid. Momphidae). *Bollettino della Società Entomologica Italiana*, Genova, 1937, vol. LXIX, n. 3, pp. 46-48.
[The caterpillar of this moth feeds exclusively on the waxen secretions of *Aclerda berlesei*, a scale insect which infests the common reed (*Phragmites communis*) and bamboo-reed (*Arundo donax*)].

MARTELLI, Giuseppe M. Contributo alla conoscenza biologica del *Dacus oleae* Rossi e dei suoi parassiti in Tripolitania. (Nota preliminare). *L'Agricoltura Coloniale*, Firenze, 1937, anno XXXI, n. 4, pp. 149-155, 2 figg.
[*Opius concolor, Eulophus longulus, Eurytoma* sp., *Eupelmus* sp.].

MAUBLANC, A. Contribution à la connaissance de la flore mycologique du littoral atlantique. *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 121-132, fig. 1-2.
[*Peronosporales, Ustilaginales* and *Uredinales*].

MCKINNEY, H. H. Virus mutation and the gene concept. *The Journal of Heredity*, Washington, D. C., 1937, Vol. XXVIII, No. 2, pp. 51-57, 7 figs. Literature cited, pp. 56-57.

MENDES, Luiz O. T. A " lagarta das maçãs do algodoeiro ". Chloridea virescens (Fab.). *Revista de Agricultura*, Piracicaba, E. de S. Paulo, Brasil, 1937, vol. 12, n. 3-4, pags. 110-118, est. I-II. Literatura citada, pag. 117.

MENOZZI, Carlo. Curculionidi della sottofamiglia Cleoninae (Coleoptera-Curculionidae) che si notano nelle colture della bietola da zucchero in Italia e loro rapporti con questa pianta. *L'Industria Saccarifera Italiana*, Genova, 1937, anno XXX, n. 5, pp. 207-216, 7 figg. Bibliografia, p. 216.
[*Leucosomus pedestris, Conorrhynchus mendicus, Con. luigionii, Mecaspis alternans, Chromoderus fasciatus, Cyphocleonus tigrinus, C. morbillosus, Cleonus piger*].

MONCHOT, E. Sur un nouvel *Uromyces* de l'oeillet cultivé, *Uromyces Dianthi-Caryophylli* n. sp. *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 133-136, 1 fig.

MOZGOWOY, Iu. G. The immunity of apple trees to the woolly aphis (*Eriosoma lanigerum* Hausm.). *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 107-151, figs. 1-3. [Literature cited], pp. 149-151.
[In Russian, with title and summary also in English].

MÜLLER, Karl. Ein Vierteljahrhundert Bekämpfung der Reben-Peronospora (Plasmopara viticola). *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 110-118. Literatur, S. 118.

MÜLLER, K. O. Zur Kenntnis der Orobanche crenata Forsk. (= O. speciosa DC.). *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 181-194, Abb. 1-2. Zitierte Literatur, S. 194.

NEWMAN, L. J. Grasshopper plague (*Austroicetes jungi*). *Journal of the Department of Agriculture of Western Australia*, Perth, 1937, Vol. 14 (Second Series), No. 1, pp. 24-28, 5 figs.

NEWMAN, L. J., and MORGAN, E. T. Preventive and combative measures against potato moth (Phthorimaea operculella). *Journal of the Department of Agriculture of Western Australia*, Perth, 1937, Vol. 14 (Second Series), No. 1, pp. 82-86. Reference, p. 86.

NEWTON, William, BOSHER, J. E., and HASTINGS, R. J. The treatment of glasshouse soils with chloropicrin for the control of *Heterodera marioni* (Cornu) Goodey, and other soil pathogens. *Canadian Journal of Research*, Ottawa, 1937, Vol. 15, Sec. C, No. 5, pp. 182-186. References, p. 186.

NEWTON, William, HASTINGS, R. J., and BOSHER, J. E. The nematode disease of bulbous iris caused by *Ditylenchus dipsaci* (Kühn 1858) Filipjev 1936, and experiments on its control by bulb treatment. *Canadian Journal of Research*, Ottawa, 1937, Vol. 15, Sec. C, No. 5, pp. 175-181, fig. 1. References, p. 181.

NICOLAS, G. Observations sur les rouilles d'*Euphorbia verrucosa* Jacq. *Annales des Sciences Naturelles, Botanique*, Paris, 1937, 10e série, tome XIX, p. 413-419. [*Uromyces excavatus* and *Melampsora* (?) near Toulouse, France].

OGLOBLIN, Alejandro A. La protección de los enemigos naturales de la mosca de la fruta (*Anastrepha fraterculus* Wied.). *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 177 a 179, figs. 1-3.

OTANES, F. Q. Notes on a cacao pod borer moth, *Acrocercops cramerella* Snell. *The Philippine Journal of Agriculture*, Manila, 1937, Vol. 7 (1936), No. 4, pp. 419-423, pls. 1-2. Literature cited, p. 422.

OVIEDO, SÁNCHEZ C. Antigüedad de gusano del maíz en el noroeste argentino. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 381 a 387, 1 fig., 1 lám.
[*Chloridea obsoleta, Rachiplusia nu, Lycophotia margaritosa, Cirphis unipuncta, Porosagrotis gypaetina, Agrotis ypsilon*, etc.].

PETIT, A. Observations sur le traitement des graines de blé contre le charbon interne (*Ustilago Tritici*). *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 175-185.

PIERI, A[lfredo]. Lotta contro la Cydia molesta. *Note di Frutticoltura*, Pistoia, 1937, anno XV, n. 5, pp. 69-75.

PITTMAN, H. A. J. Disinfection of tobacco seed. *Journal of the Department of Agriculture of Western Australia*, Perth, 1937, Vol. 14 (Second Series), No. 1, pp. 93-95.

PLAKIDAS, A. G. The rosette disease of blackberries and dewberries. *Journal of Agricultural Research*, Washington, D. C., 1937, Vol. 54, No. 4, pp. 275-303, figs. 1-9. Literature cited, pp. 302-303.
[*Cercosporella rubi* (Wint.) comb. n. on *Rubus* spp. A revised technical description in English is appended].

POLITIS, Jean. Immunité et hérédité chez les végétaux. *Revue de Microbiologie appliquée à l'Agriculture, à l'Hygiène, à l'Industrie*, Paris, 1937, 3ème année, nº 3, p. 73-82.

POLLACCI, Gino. Su una grave malattia delle patate manifestatasi nelle provincie di Pavia, Parma e Ferrara. *Atti dell'Istituto Botanico dell'Università di Pavia*, Pavia, 1937, ser. IV, vol. IX, 15 pp., 5 figg.
[The causes, as yet unknown, of the decreased vitality of potato tubers, should be sought, according to the A., in the country which produces these tubers].

POTTER, C. A biological study of the fumigation of empty warehouses with hydrogen cyanide and ethylene oxide. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 415-441, figs. 1-3. References, pp. 440-441.
[Experiments were carried out on *Ephestia elutella* and *Plodia interpunctella*].

PRAVIEL, G. Notes sur la morphologie externe du carpocapse du pommier (*Laspeyresia pomonella* L.). *Revue de Pathologie végétale et d'Entomologie agricole de France*, Paris, 1937, tome XXIV, fasc. 2, p. 112-120, pl. I-III.

PRESLEY, John T., and THOM, Charles. "Spore mats" of Phymatotrichum omnivorum. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, p. 588.

PRICE, W. C. Classification of lily-mosaic virus. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 561-569, figs. 1-5. Literature cited, pp. 568-569.

RAABE, Achilles. *Helminthosporium tritici vulgaris* Nisikado. Erreger einer Blattkrankheit des Weizens. *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 111-112, Abb. 1-2.

RENNERFELT, Erik. Undersökningar över svampinfektionen i slipmassa och dess utveckling därl. *Svenska Skogsvårdsföreningens Tidskrift*, Stockholm 1937, årg. 35, häfte I, sid. 47-159, fig. 1-12. Literaturförteckning, sid. 150-152.
[In Swedish, with title and summary also in English: — 'Researches into fungal infection of ground wood-pulp and its development in the same'. — *Cadophora fastigiata*, *Pullularia pullulans*, *Phoma lignicola* n. sp., *Rhodotorula gracilis* n. sp., *Penicillium*, *Aspergillus*, *Trichoderma* spp., etc.].

REYES, Gaudencio M. Rice hybrids *versus* stem rot disease. *The Philippine Journal of Agriculture*, Manila, 1937, Vol. 7 (1936), No. 4, pp. 413-417, pls. 1-3.
[*Sclerotium oryzae*].

RÖDER, K. Perithecien von Erysiphe cichoracearum DC. em. Salm. an Freilandgurken (Cucumis sativus L.). *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 161-163, Abb. 1. Literaturnachweis, S. 163.

ROST, Hans. Die Pasmo-Krankheit des Leins in Europa [Erreger: Septoria linicola (Speg.) Garassini]. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 163-171, Abb. 1-3. Literatur, S. 171.

ROTHE, Gerhard. Mineralöle im Pflanzenschutz II. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1937, 17. Jahrg., Nr. 6, S. 46-48.

RŮŽIČKA, Jaroslav. O. korovnicích, žijících střídavě na smrku a modřínu v lesích král. kanonie Strahovské na Milevsku. *Lesnická Práce*, Písek, 1937, roč. XVI, čís. 4, str. 199-212. Literatura, str. 208-209.
[In Czech, with titles and summaries also in German, French and English:— 'Über die in den Wäldern der königl. Kanonie Strahov bei Milevsko auf der Lärche und Fichte lebenden Chermesiden'. — 'Chermesinae vivant alternativement dans la Bohême méridionale, et sur le pin et sur le mélèze'. — 'Chermesinae living in South Bohemia alternately on pines and larch trees'].

RYZHKOV, V. L. Immunity of plants to diseases caused by filtrable viruses. *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 81-105. [Literature cited], pp. 102-104.
[In Russian, with title and summary also in English].

SALGUES, René. Les modifications biochimiques en Phytopathologie. *Revue générale des Sciences pures et appliquées*, Paris, 1937, t. XLVIII, nº 9, p. 237-244.

SCARONE, Francis. Les plantes à roténone. *L'Agronomie Coloniale*, Paris, 1937, 26e année, nº 231, p. 79-86; nº 232, p. 107-118, 1 fig. Bibliographie, p. 118.

SCHARRER, K., und SCHROPP, W. Weiten Gefäss- und Wasserkulturversuche über die Wirkung des Bors allein und in Kombination mit Jod in Düngemitteln. *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 57-78, Abb. 1-4.

SCHEIBE, Arnold. Das Fritfliegenproblem beim Hafer auf wachstumsphysiologischer Grundlage. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 260-290, Abb. 1-3. Literatur, S. 289-290.
[*Oscinis frit*].

SCHLUMBERGER, Otto. Über Fritfliegen- und Drahtwurmschäden beim Mais. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 153-157, Abb. 1-4.
[*Oscinis frit* and *Elateridae*].

SCHWERDTFEGER, F. Die wichtigeren forstpathologischen Arbeiten des Jahres 1936. *Forstarchiv*, Hannover 1937, 13. Jahrg., Heft 8, S. 133-142. Literatur, S. 140-142.

SCHWERDTFEGER, F., und STAHL, G. Untersuchungen über die Bekämpfung des Kiefernspanners mit Kontaktgiften. *Forstarchiv*, Hannover 1937, 13. Jahrg., Heft 5, S. 73-78.
[*Bupalus piniarius*].

SERVAZZI, Ottone. Osservazioni preliminari su *Pestalotia macrotricha* Kleb. in coltura. *Nuovo Giornale Botanico Italiano* (n. ser.), Firenze, 1937, vol. XLIII (1936), n. 4, pp. 887-889.

SIDOROV, F. F. Breeding of potatoes for immunity to *Phytophthora infestans* DB. *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 5-79, figs. 1-12, 1 map. [Literature cited], pp. 75-76.
[In Russian, with title and summary also in English].

SMITH, Leslie M. Biology of the mealy plum aphid, Hyalopterus pruni (Geoffroy). *Hilgardia*, Berkeley, California, 1936, Vol. 10, No. 7, pp. 167-211, figs. 1-12, pl. 1. Literature cited, pp. 206-209.

SMITH, Leslie M. Growth, reproduction, feeding, and wing development of the mealy plum aphid in relation to climatic factors. *Journal of Agricultural Research*, Washington, D. C., 1937, Vol. 54, No. 5, pp. 345-364, figs. 1-9. Literature cited, pp. 363-364.

SMITH, Leslie M., and GOLDSMITH, Earl V. The cyclamen mite, Tarsonemus pallidus, and its control on field strawberries. *Hilgardia*, Berkeley, California, 1936, Vol. 10, No. 3, pp. 53-94, figs. 1-8. Literature cited, pp. 93-94.

SNYDER, W. C., and THOMAS, H. Rex. Spotted wilt of the sweet pea. *Hilgardia*, Berkeley, California, 1936, Vol. 10, No. 8, pp. 257-262, fig. 1. Literature cited, p. 263.

[A virus disease of *Lathyrus odoratus*].

SOBRERO, L. R. Máquinas pulverizadoras. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 239 a 244.

SPERONI, Horacio A. Informe sobre la naranja negra, sus causas y medio de control. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 449 y 450, 1 fig.

[This disorder would be caused by the action of a mite belonging to the *Tenuipalpus* genus].

SPOON, W., VAN DER LAAN, P. A., SMULDERS, Clemence M. L., en DIAKONOFF, A. Het verschil in werkzaamheid van Derris- en Lonchocarpuswortel en de onderscheiding van hun wortelpoeders. *De Indische Mercuur*, Amsterdam 1937, 60e jaarg., nº 18, blz. 259-261, 1 fig., blokdiagr. I-V; nº 19, blz. 275-276, fig. 1-2.

STAPP, C. Weitere Beiträge zur Frage der Widerstandsfähigkeit verschiedener Kartoffelsorten gegen Schwarzbeinigkeit und Knollennassfäule, verursacht durch Bacterium phytophthorum Appel. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 141-152. Schrifttum, S. 152.

STEINER, Paul. Beiträge zur Kenntnis der Schädlingsfauna Kleinasiens V. Über einige wenig bekannte Kleinschädlinge der Zuckerrübe in der Turkei. *Zeitschrift für angewandte Entomologie*, Berlin 1937, Bd. XXIV, Heft 1, S. 1-24, Abb. 1-19. Literatur, S. 24.

[See also this *Bulletin*, 1936, Nos. 10, p. 237 and 12, p. 285. — *Chromoderus fasciatus, Temnorhinus kirghisicus, Tanimecus palliatus, T. dilaticollis, Psalidium maxillosum, Pedinus strobanis, Gonocephalus pusillum, Subcoccinella 24-punctata, Cassida seraphina, C. vittata, Phthorimaea ocellatella, Coreus disciger, Pseudococcus* sp., *Spalax monticola anatolicus* in Asia Minor].

STRAIB, W. Die Untersuchungsergebnisse zur Frage der biologischen Spezialisierung des Gelbrostes (*Puccinia glumarum*) und ihre Bedeutung für die Pflanzenzüchtung. *Der Züchter*, Berlin 1937, 9. Jahrg., Heft 5, S. 118-129. Literatur, S. 129.

STRICKLAND, E. H. The northern limits for potato beetle infestation. *Scientific Agriculture*, Ottawa, Canada, 1937, Vol. XVII, No. 7, pp. 447-450. References, p. 450.

[With title and summary also in French: — 'Les limites septentrionales de l'invasion du doryphore (bête à patates)'. — *Leptinotarsa decemlineata*].

SWEETMAN, Harvey L. The biological control of insects. With a chapter on weed control. With a foreword, by L. O. H o w a r d . Ithaca, New York, Comstock Publishing Company, Inc., 1936, XII + 461 pp., 6 portr., 142 figs. References, pp. [390]-420.

[A text that might serve the needs of students and research workers in the field of biological control has not been available heretofore.

This book follows a definite plan of presentation, treating first of the lower forms of life and ending with the higher forms of life that are or show promise of being useful in the biological control of pests. Since the Hexapoda is the major group of organisms being utilized in controlling pests by the biological method, the greater portion of the work deals with insects as the controlling agents.

The intention of the A. is to acquaint the reader with the life history, habits, methods of handling, and methods of utilization of the organisms that might be, or are being, used in controlling insect pests. For this purpose choice has been made of species that are useful, or well-known, or that show common variations in the biology of the various groups.

A chapter is devoted to summarizing the results or attempts to control insect pests by the biological method in continental and insular regions, thus demonstrating the possibilities of utilizing the material that has been presented previously.

A final chapter discusses the biological control of pest plants by the use of phytophagous insects and other biological agents].

TERVET, Ian W. An experimental study of some fungi injurious to seedling flax. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 531-546, figs. 1-3. Literature cited, pp. 545-546.

[*Helminthosporium* spp., *Rhizoctonia* spp., *Thielavia basicola*, *Ophiobolus cariceti*, *Alternaria* sp., *Pythium* spp., *Phytophthora* spp.].

THALENHORST, W. Über die Brauchbarkeit von Paradichlorbenzol zur Engerlingsbekämpfung. *Zeitschrift für Forst- und Jagdwesen*, Berlin 1937, LXIX. Jahrg., 3. Heft, S. 168-171. Literatur, S. 170-171.

[*Melolontha*, *Polyphylla*, *Amphimallus*].

THIEM, H. Vom Blattrippenstecher (*Rhynchites pauxillus* Germ.) als Obstbaumschädling. *Arbeiten über physiologische und angewandte Entomologie aus Berlin-Dahlem*, Berlin-Dahlem 1937, Bd. 4, Nr. 1, S. 1-17, Fig. 1-3. Literatur-Verzeichnis, S. 12, 15-17.

THIEM, H. Auftreten der Mittelmeerfruchtfliege (*Ceratitis capitata* Wied.) in Deutschland. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1937, 17. Jarhg., Nr. 6, S. 45.

URIEN, José Domingo. La lucha contra la vizcacha. Algunos conocimientos que deben saberse, para combatirla con eficacia. *Almanaque del Ministerio de Agricultura de la Nación*, Buenos Aires, 1937, año XII, págs. 495 y 496.

[*Lagostomus trichodactylus*].

UVAROV, B. P., and MILNTHORPE, W. The locust outbreak in Africa and western Asia in 1935. Preface by Sir Henry M i e r s . (Economic Advisory Council. Committee on Locust Control. H. M. Stationery Office Publication, No. 63-80-5). London, 1937, 63 pp., 9 maps. Bibliography of the literature on locusts and grasshoppers and on their control for 1935, pp. 50-62.

[*Schistocerca gregaria*, *Locusta migratoria migratorioides*, *Nomadacris septemfasciata*, *L. migratoria* sbsp.].

VANDERWALLE, R., et LAROSE, E. La désinfection à l'eau chaude des semences contre le charbon, *Ustilago Tritici* Schaf. *Bulletin de la Société Royale de Botanique de Belgique*, Bruxelles, 1936-1937, tome LXIX, 2ème sér., tome XIX, fasc. 1 (1936), p. 39-40.

VAYSSIÈRE, Paul. Aperçu sur l'importance économique des punaises du blé. *Bulletin de la Société d'Encouragement pour l'Industrie nationale*, Paris, 1937, 136e année, nos 3-4, p. 191-194. Bibliographie, p. 193-194.
[*Eurygaster* and *Aelia* spp.].

VERPLANCKE, G., et VANDENBROECKE, R. Contribution à la flore mycologique belge. *Bulletin de la Société Royale de Botanique de Belgique*, Bruxelles, 1936-1937, tome LXIX, 2ème sér., tome XIX, fasc. 1 (1936), p. 69-[95], fig. 1-20.
[Enumeration of 191 parasitic and saprophytic fungi new to Belgian mycological flora; 20 of these species are new to science. The corresponding Latin diagnoses were given].

WARTENBERG, Hans. Ueber die Pufferung der Presssäfte abbaukranker und gesunder Knollen der Kartoffel. *Phytopathologische Zeitschrift*, Berlin 1937, Bd. X, Heft 1, S. 43-56, Abb. 1-4. Schriftenverzeichnis, S. 56.

WARTENBERG, Hans, und KLINKOWSKI, Max. Eine „ Jodprobe " zur Pflanzgutwertbestimmung der Kartoffel. Vorläufige Mitteilung aus Untersuchungen. *Phytopathologische Zeitschrift*, Berlin 1936, Bd. X, Heft 1, S. 107-109.

WEIDEMANN, M. G. Moderne Fragen in der Phytoimmunologie und der Immunitätszüchtung gegen Pilzkrankheiten. *Bulletin of Applied Botany, Genetics and Plant Breeding*, Leningrad, 1937, Series II, No. 11, Genetics, Plant Breeding and Cytology of Plants, pp. 227-258. [Literatur], pp. 252-257.
[In Russian, with title and summary also in German].

WELSCH, Ilse. Die Massenverbreitung der Pflaumenschildlaus (*Eulecanium corni* [Bouché] March.) und ihre Ursachen. Beitrag zum parasitologischen Befallswechsel der Pflanzen in Abhängigkeit vom Boden. *Landwirtschaftliche Jahrbücher*, Berlin 1937, 84. Bd., Heft 3, S. 431-492, 14 Abb. Schrifttum, S. 491-492.

WESTERDIJK, Joha. Die Notwendigkeit der Anfälligkeitsprüfungen unserer Laub- und Nadelhölzer. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 119-126.

WESTERN, J. M. Sexual fusion inUstilago avenae under natural conditions. *Phytopathology*, Lancaster, Pa., 1937, Vol. 27, No. 4, pp. 547-553, figs. A-F. Literature cited, p. 553.

WHITEHEAD, T. Virus diseases of the tomato. The " carrier " problem. Its relation to symptomatology and commercial potato growing. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 323-341, pl. XXIII. References, pp. 339-340.

WICHENS, G. M. Smut diseases of wheat in Southern Rhodesia. *The Rhodesia Agricultural Journal*, Salisbury, 1937, Vol. XXXIV, No. 4, pp. 271-276.
[*Ustilago tritici*, *Tilletia caries*].

WILLIAMS, C. B. The use of logarithms in the interpretation of certain entomological problems. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 404-414, figs. 1-4. References, p. 414.

WILSON, A. R., The chocolate spot disease of beans (*Vicia Faba* L.) caused by *Botrytis cinerea* Pers. *The Annals of Applied Biology*, London, 1937, Vol. XXIV, No. 2, pp. 258-288, figs. 1-3, pls. XIV-XVII. References, pp. 287-288.

WILSON, Edward E. Symptomatic and etiologic relations of the canker and the blossom blast of Pyrus and the bacterial canker of Prunus. *Hilgardia*, Berkeley, California, 1936, Vol. 10, No. 8, pp. 213-240, figs. 1-6. Literature cited, pp. 239-240.
[*Phytomonas syringae*].

WOLLENWEBER, H. W. Der schwarze Rindenbrand der Quitte. [Erreger: Phacidiella discolor (Mout. et Sacc.) Potebnia]. *Angewandte Botanik*, Berlin 1937, Bd. XIX, Heft 2, S. 131-149, Abb. 1-2. Schriftenverzeichnis, S. 139-140.

WORSLEY, R. R. Le G., [and] NUTMAN, F. J. Histology of *Derris* roots. *Nature*, London, 1937, Vol. 139, No. 3525, p. 883.

YARWOOD, C. E. The relation of light to the diurnal cycle of sporulation of certain downy mildews. *Journal of Agricultural Research*, Washington, D. C., 1937, Vol. 54, No. 5, pp. 365-373. Literature cited, p. 373.
[*Pseudoperonospora humuli*, *Peronospora destructor*, *Plasmopara viticola*, *Bremia lactucae*].

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